

Friday 1 December 2023 at 14:15

FU Berlin, Computer Science Building, Room T9.028

Tea & Cookies starting at 13:00!© courtesy of www.Wassily-Kandinsky.org

Andreas Thom

(TU Dresden)

Equations over groups

The study of equations in the language of groups has a long history and many applications. Thom will explain how topological methods can be applied to solve equations over groups and also mention some recent advances in the study of identities for finite and infinite groups. This includes his joint work with Anton Klyachko and Martin Nitsche.

All of this is related to a fundamental question raised by Connes in the late 1970s and in a similar form by Gromov in the late 1990s: how can groups be approximated by finitary structures such as permutation groups or compact Lie groups? Despite some recent breakthrough results in quantum information theory which point towards a negative answer and intrinsic limitations to approximability, these questions are still open. Thom will touch upon these problems.

Andreas Thom obtained his PhD in 2003 from the University of Münster under the supervision of Joachim Cuntz. After completing his postdoctoral studies in Münster and Göttingen, he became a full professor for Theoretical Mathematics at the University of Leipzig in 2009 and then he moved to the TU Dresden for a full professorship in Geometry in 2014. He was also a recipient of the ERC Starting Grant in 2010 and of the ERC Consolidator Grant in 2015. In 2018, he was an invited speaker at the International Congress of Mathematics in Rio de Janeiro. ▀